

Listing of Claims:

The following listing of claims replaces all prior versions and listings of claims in the application. Additions are indicated by underlining and deletions are indicated by ~~strikethrough~~. Only this marked-up version of the claims is provided, in accordance with the revised amendment format as set forth in 1267 OG 106 (February 25, 2003), in which the requirement for an unmarked version of the claims is waived.

Please cancel claims 1-93 and claims 105-128.

Please amend claims 94-104 and claims 129-132 as follows:

Claims 1-93 (withdrawn, currently cancelled)

Claim 94 (currently amended): A recombinant bio-detector comprising:

- (i) ~~an R gene~~ a disease resistance gene (R gene) encoding a product, wherein the encoded product is capable of activation by at least one elicitor; and
(ii) a reporter operably linked to a promoter responsive to the activated product of the R gene.

Claim 95 (previously amended, currently amended): The recombinant bio-detector of claim 94, wherein the R gene comprises a shuffled R gene, wherein the shuffled R gene product provides enhanced resistance to pathogens or environmental stressors with a specified characteristic

Claim 96 (currently amended): The recombinant bio-detector of claim 95, wherein the R gene encodes a product capable of activation by a designated corresponding elicitor.

Claim 97 (currently amended) The recombinant bio-detector of claim 96, wherein the designated corresponding elicitor is an Avr (avirulence) gene product.

Claim 98 (currently amended) The recombinant bio-detector of claim 94, wherein the reporter comprises a green fluorescent protein (GFP), a carotenoid biosynthetic enzyme, an anthocyanin regulatory gene or a luciferase.

Claim 99 (currently amended) The recombinant bio-detector of claim 94, wherein the promoter comprises a promoter derived from a gene in a systemic acquired acquired resistance (SAR) pathway promoter.

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Claim 100 (currently amended) The recombinant bio-detector of claim 94, wherein the promoter comprises a PR promoter.

Claim 101 (currently amended) A plant or plant cell comprising the recombinant bio-detector of claim 94.

Claim 102 (currently amended) The plant or plant cell of claim 101, wherein one or more component of the recombinant bio-detector is stably integrated into a chromosome.

Claim 103 (currently amended) The plant or plant cell of claim 101, wherein one or more component of the recombinant bio-detector is extrachromosomally replicated.

Claim 104 (currently amended) The plant or plant cell of claim 103, wherein the one or more extrachromosomally replicated component of the recombinant bio-detector comprises a non-integrating viral vector.

Claims 105-127 (withdrawn, currently cancelled)

Claim 128 (previously added, currently cancelled) The bio-detector of claim 94, wherein the elicitor is an environmentally relevant ligand.

Claim 129 (previously added, currently amended) The recombinant bio-detector of claim 94 128, wherein the environmentally relevant ligand elicitor is a ligand that is a component of a crop pathogen.

Claim 130 (previously added, currently amended) The recombinant bio-detector of claim 94 128, wherein the environmentally relevant ligand elicitor is a ligand that is a product produced by a crop pathogen ~~derived product that has not been ascribed elicitor function~~.

Claim 131 (previously added, currently amended) The recombinant bio-detector of claim 94 128, wherein the environmentally relevant ligand elicitor is a ligand that is a molecule produced by a plant in response to environmental stressors such as heat, drought, uv irradiation, and wounding.

Claim 132 (previously added, currently amended) The recombinant bio-detector of claim 94 128, wherein the environmentally relevant ligand elicitor is a ligand that is a human pathogen and/or animal pathogen.